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# Hearing Screening Pass/Fail Rates for Head Start Children in Northeast Indiana

Lindsey Rife

Department of Communication Sciences and Disorders



## Introduction

This study examined the hearing screening pass/fail rates of children ages three through five years old who attended one of eight Community Action of Northeast Indiana (CANI) Head Start centers in three counties (Allen, Noble, and Whitley) during the fall of 2014.

### Subjects

- 435 students
- Ages 3-5 years old

### Screening Tests

- Otoscopic examination\*
- Otoacoustic emissions testing\*

### Outcomes

- Pass-pass both tests
- Fail-fail either test

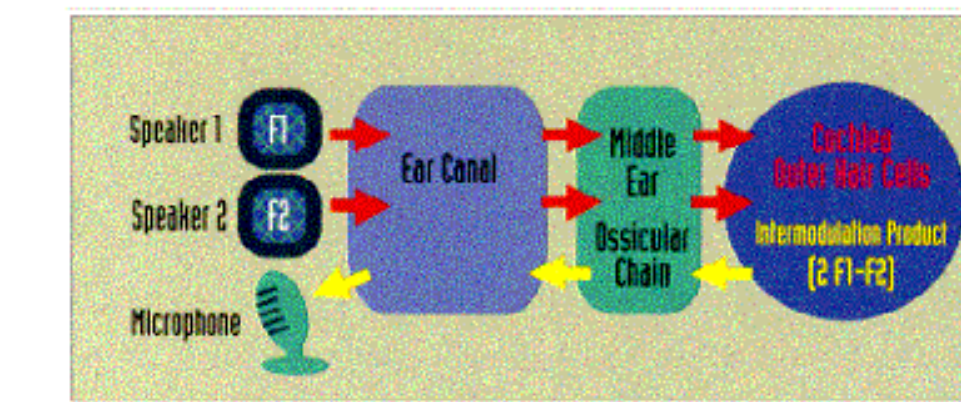
### Median Household Income Level

- By zip code, 2010 U.S. Census data



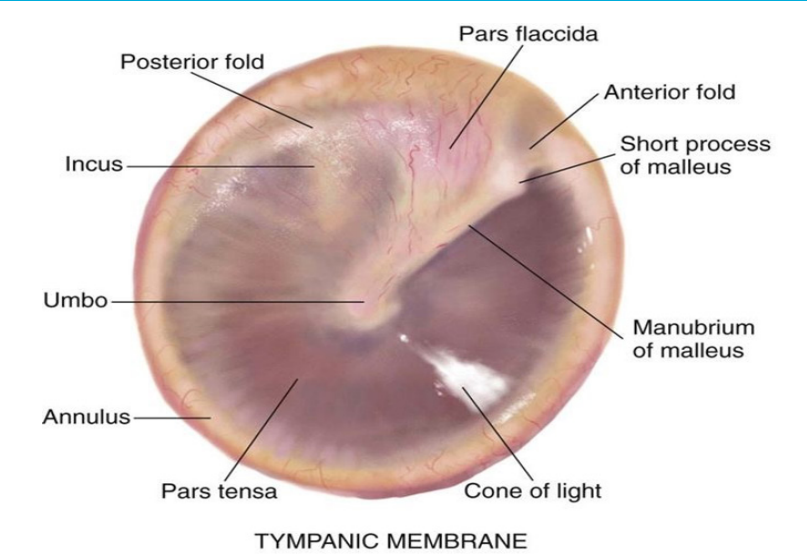
### Otoacoustic Emission Pathway

This chart shows an OAE's route from the probe, through the ear, and back to the probe.



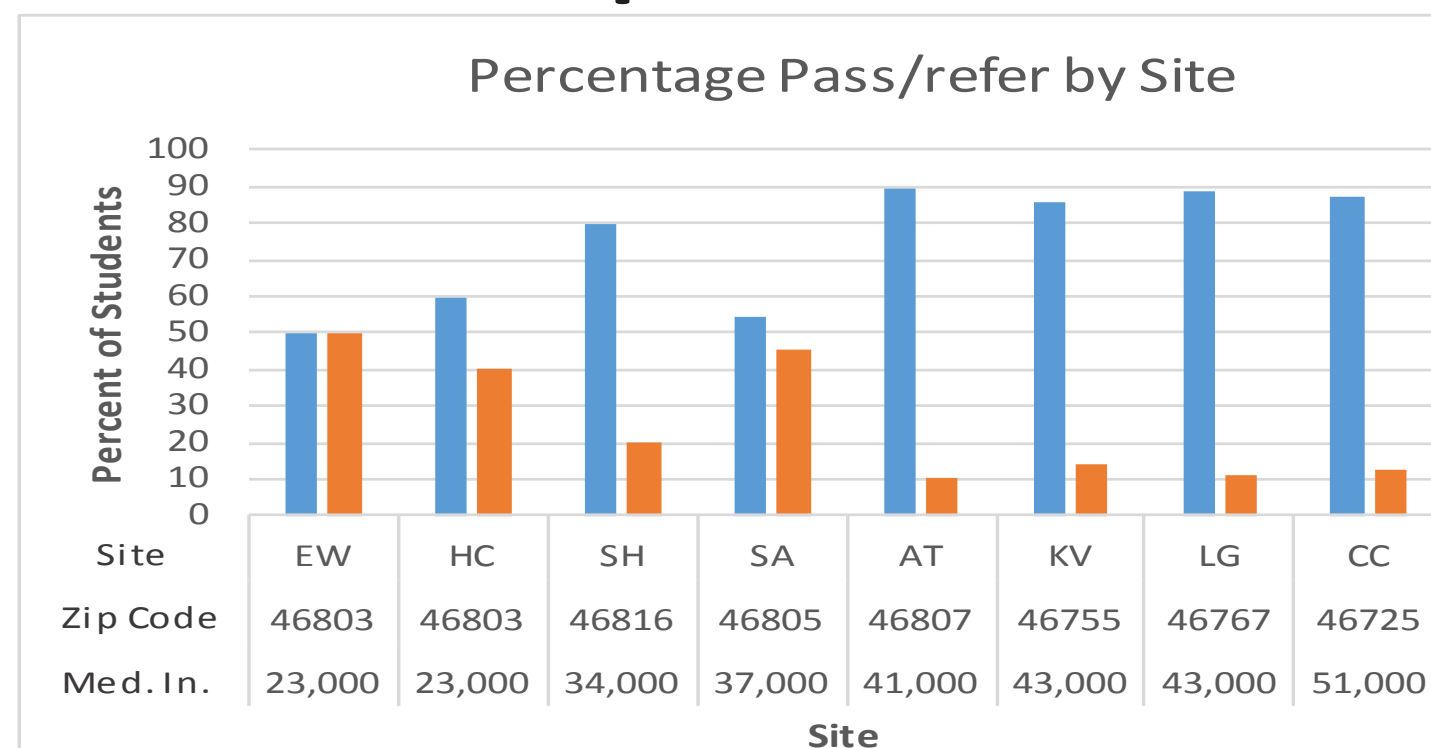
## Method

\*Otoscopic examination: a small light is shined into the child's ear canal which allows for a visual examination of the auditory canal and the ear drum.



\*Otoacoustic emissions testing: the device generates tones which induce the basilar membrane responses which in turn generate tones of different frequencies.

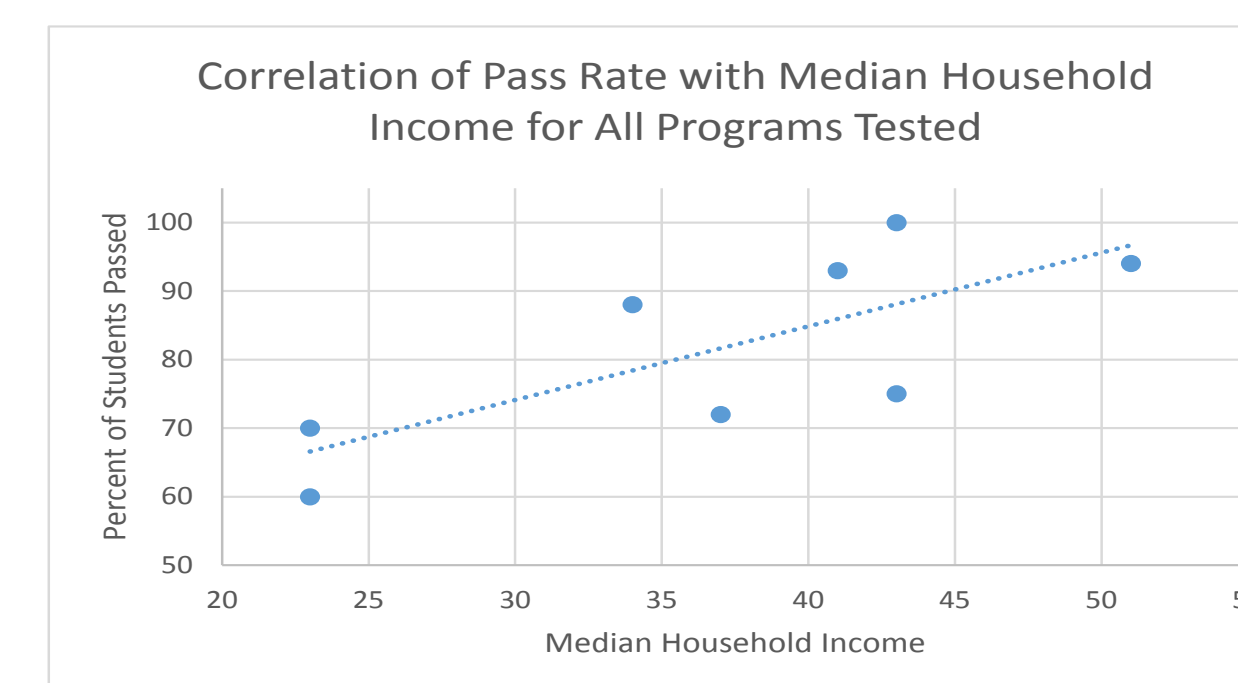
## Representation of Pass/Fail



AT-Achduth Vesholom Temple  
CC-Columbia City  
EW-East Wayne Center  
HC-Hanna Creighton  
KV-Kendallville  
LG-Ligonier  
SA-Salvation Army  
SH-St. Henry's Catholic Church

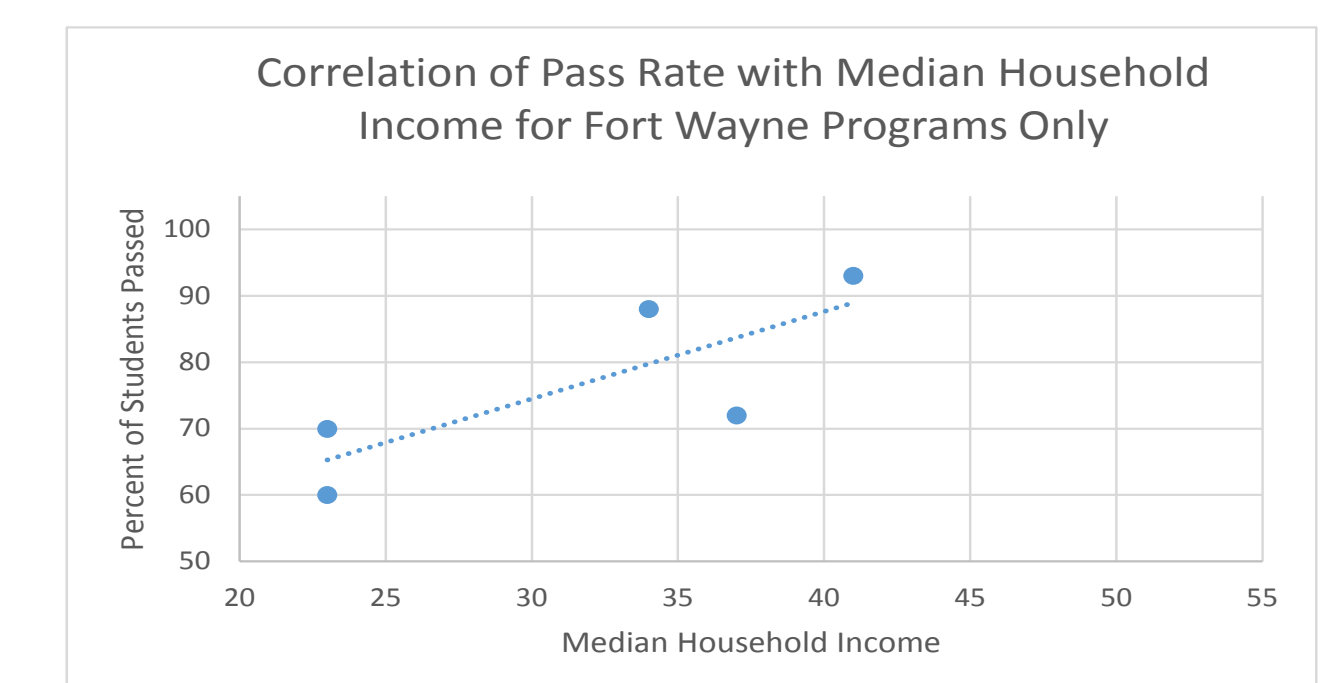
## Results for All Programs

1. The correlation between percentage of students who passed both screening tests with median annual household income was .75.



## Results for Fort Wayne Programs

2. A second comparison which just included children from the Fort Wayne urban area yielded a correlation coefficient of .80



## Conclusion

Since the main criterion for Head Start eligibility is family at or below poverty level, the correlation of pass rates with median income in the surrounding neighborhood suggests that more affluent neighborhoods support better health care outcomes even for the most disadvantaged families. These results suggest that there should be a strong emphasis on the needs of the preschool children from socioeconomically disadvantaged neighborhoods when planning preschool hearing screenings.

## REFERENCES AND ACKNOWLEDGMENTS

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